

CLAIMS

1 1. An electrostatic discharge (ESD) protective structure that protects an integrated circuit
2 connected between a first voltage bus with a first supply voltage (VCC) and a second voltage bus
3 with a second supply voltage (VSS), said electrostatic discharge protective structure comprising:
4 a plurality of laterally designed bipolar transistors each having a first load line connected to
5 the first voltage bus and a second load line connected to the second voltage bus, wherein said first
6 load lines are electrically parallel and said second load lines are electrically parallel to one another,
7 each of said transistors includes a control connection connected to one of the voltage buses;
8 a single track resistor (RB) co-integrated into a semiconductor body, wherein said single
9 track resistor precedes every control connection (B) of said bipolar transistors (T1-T3).

1 2. The electrostatic discharge protective structure of claim 1, wherein said semiconductor
2 body has embedded therein at least one emitter zone and at least one collector zone of the first
3 conduction type and at least one base zone of the second, opposite conduction type, wherein a
4 well-shaped region is inserted into said semiconductor body between said zones of the first
5 conduction type and said base zones, so as to extend the effective mean free path of the charge
6 carriers to said base zone.

1 3. The electrostatic discharge protective structure of claim 2, wherein said well-shaped region
2 is connected to one of said zones of the first conduction type.

1 4. The electrostatic discharge protective structure of claim 3, wherein said well-shaped region

2 has the same conduction type as said zone to which it is connected, but has a lower dopant
3 concentration.

1 5. The electrostatic discharge protective structure of claim 4, wherein said well-shaped region
2 extends deeper into said semiconductor body than said zone which it adjoins or to which it is
3 connected.

1 6. The electrostatic discharge protective structure of claim 5, wherein said base zones
2 laterally enclose said emitter zones at said collector zones.

1 7. The electrostatic discharge protective structure of claim 6, wherein said semiconductor
2 body has charge carriers of the first conduction type and that at least one further well of the second
3 conduction type is embedded in said semiconductor body, and that said emitter zones, collector
4 zones, and base zones and said well-shaped regions are embedded in said well.

1 8. The electrostatic discharge protective structure of claim 7, wherein said emitter zones and
2 collector zones are designed as strips and are disposed alternately next to one another and
3 parallel to one another.

1 9. The electrostatic discharge protective structure of claim 8, wherein said electrostatic
2 discharge protective structure is configured and arranged in an essentially square layout.

1 10. The electrostatic discharge protective structure of claim 9, wherein in said emitter zones
2 are through-contacted by said emitter electrodes, and said collector zones are through-contacted

3 contacted by said collector electrodes.

1 11. The electrostatic discharge protective structure of claim 8, wherein said emitter electrodes
2 and said collector electrodes are connected via conductor tracks to oppositely situated voltage
3 buses and form finger-like connections which are staggered with one another.

1 12. The electrostatic discharge protective structure of claim 8, wherein said bipolar transistors
2 (T1-T3) are designed as field oxide transistors.